

COST-EFFECTIVENESS ANALYSIS OF CURRENTLY MARKETED LONG-TERM CONTRACEPTIVES

PMW5

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OBJECTIVES: To compare the costs and benefits, from a health plan perspective, of contraceptive methods currently marketed in the United States among individuals desiring long-term contraception.

METHODS: A semi-Markov model was constructed to compare cost-effectiveness among 14 contraceptive strategies (including injectables, implants, oral contraceptives, IUDs, barrier methods, and surgical methods). Primary health states included method discontinuation, initial/continued use, method failure and plan disenrollment with transitions every year for five years. Costs for method failure, other discontinuation, and method-related events (amenorrhea, hysterectomy, menorrhagia, urinary tract infection, and venous thromboembolism) are included in the model. Baseline event rates, costs, and method effects on rates were derived from a comprehensive literature review, average wholesale drug prices, and the 2000 Medicare Reimbursement Fee Schedule, in conjunction with expert opinion. One-way sensitivity analyses were performed on several key variables.

RESULTS: The five most effective methods were vasectomy, tubal ligation, implant, progestin-releasing IUD, and copper IUD, with average effectiveness of (99.9%, 99.8%, 98.6%, 98.2% and 97.8%, respectively). The five least expensive methods were vasectomy, progestin-releasing IUD, copper IUD, implant, and injectables with respective five-year costs/person of \$800, \$1,196, \$1,217, \$1,237, and \$1,764. Vasectomy dominated other methods over five years. After excluding vasectomy, progestin-releasing IUD, implant and tubal ligation dominated, with a marginal cost-effectiveness of \$71 per additional percent of effectiveness between progestin-releasing IUD and implant, and \$958 between progestin-releasing IUD and tubal ligation. The cost-effectiveness ranking among methods did not vary significantly in most sensitivity analyses except those based on method costs.

CONCLUSIONS: Over five years, vasectomy is the most cost-effective long-term contraceptive strategy. Among long-term contraceptive options for women, progestin-releasing IUD had a lower cost-effectiveness ratio than either implant or tubal ligation and dominated all other methods.

PMW6

COST EFFECTIVENESS MODELING COMPARING RECOMBINANT FSH WITH URINARY FSH FOR OVARIAN STIMULATION—A MULTINATIONAL EVALUATION

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OBJECTIVES: The focus on cost-containment imposed by shrinking national health care budgets is increasingly putting pressure on investigators to demonstrate that newer interventions are cost-effective. In assisted reproductive technology (ART), a shift in usage is occurring from urinary derived to biotechnology – derived (recombinant) gonadotropins for ovarian stimulation. Provision of treatment with ART involves several cycles, each associated with multiple steps with varying outcomes at each step. To take into account all the situations that are possible during the repeated cycles of treatment when trying to evaluate different ovarian stimulation regimens is a complex task that requires large numbers of subjects to adequately address the cost-effectiveness. A more efficient approach is to employ modeling techniques that can easily be applied to the different national health care systems. The objective of this study was to compare the cost-effectiveness of recombinant(r) FSH with urinary(u) FSH in the UK, USA, Germany and Spain.

METHODS: The analyses used the Markov model and Monte-Carlo simulations taking into account the different health care environments in the four countries. For each nation, costs were provided by their national formulary and clinic tariff, and probabilities for outcomes were obtained from randomized controlled trials, the medical literature and national registries. The data were they validated by a panel of national experts and the estimation of variability in the transition probabilities was also ratified by the panel. This approach provided a range of transitional probabilities from which a precise standard deviation could be obtained for each outcome. The final Markov matrix included 300–600 health states that represented the complete ART process over multiple cycles involving the transfer of fresh or cryopreserved embryos.

RESULTS: Country Mean cost per pregnancy uFSH rFSH Difference UK £6060 5906 154 USA \$47,096 40,688 6408 Germany DM 45,510 43,311 2199 Spain PTAS 3,405,347 3,284,241 121,106

CONCLUSION: The studies confirmed that rFSH is more cost-effective than uFSH for ovarian stimulation. The lower average cost per pregnancy was observed consistently in each country.

PMW7

IDENTIFYING PATIENT AND HOSPITAL-RELATED PREDICTORS OF MATERNITY LENGTH OF STAY AND TOTAL INPATIENT CHARGES FOR OBSTETRICAL DELIVERIES IN A NATIONAL SAMPLE

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Obstetrical delivery is the most frequent cause of hospital admissions (4 million) in the US.

OBJECTIVE: To assess the relationship of patient and hospital-related characteristics with maternity length of stay (LOS) and charges for obstetrical deliveries.